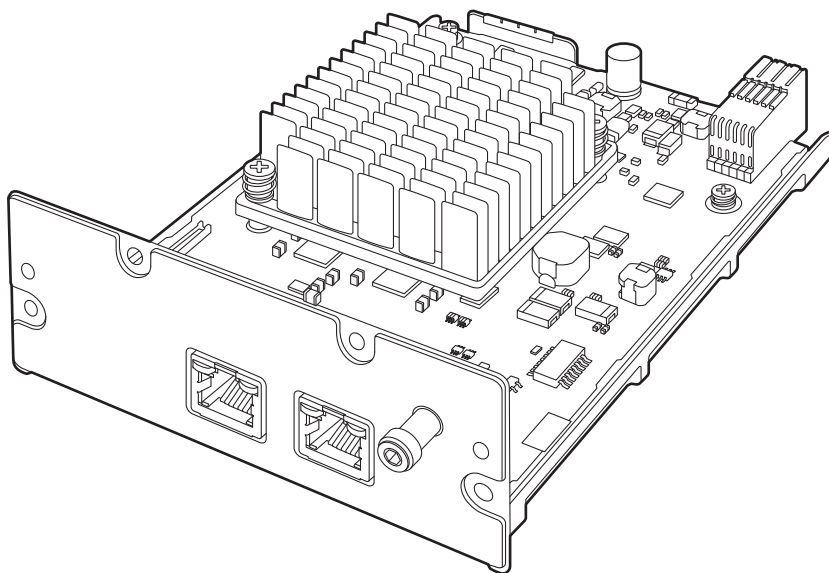


## Operating Instructions

---

NDI I/F Unit

Model No. **AV-UHS5M6G**



Before operating this product, please read the instructions carefully and save this manual for future use.  
Please carefully read the "Read this first!" (pages 3 to 5) of this Manual before use.

#### ● Information on software for this product

1. Included with this product is software licensed under the GNU General Public License (GPL) and GNU Lesser General Public License (LGPL), and users are hereby informed that they have the right to obtain, change and redistribute the source codes of this software.

To obtain the source codes, go to the following website:

<https://connect.panasonic.com/en/>

The manufacturer asks users to refrain from directing inquiries concerning the source codes they have obtained and other details to its representatives.

2. Included with this product is software which is licensed under MIT-License.
3. This product includes software which is licensed under FreeType Project ([www.freetype.org](http://www.freetype.org)).

For more information about these, refer to the website below.

<https://pro-av.panasonic.net/manual/en/index.html>

Details are given in the original (English language) text.

#### Trademarks and registered trademarks

- The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.
- SDXC Logo is a trademark of SD-3C, LLC.
- NDI® is a registered trademark of NewTek, Inc. in the United States and other countries.
- Other names of companies and products contained in these Operating Instructions may be trademarks or registered trademarks of their respective owners.

#### About copyright and licence

Distributing, copying, disassembling, reverse compiling, reverse engineering, and also exporting in violation of export laws of the software provided with this unit are expressly prohibited.

#### Abbreviations

The following abbreviations are used in this manual.

- Both SDHC memory cards and SDXC memory cards are described as “memory cards” in this manual. When individual descriptions are provided, they are featured individually.
- Personal computers are referred to as “computers”.

Furthermore, the product numbers of equipment are referred to as follows.

Model number of unit	Model number given in manual
AV-UHS5M6G	AV-UHS5M6
AV-UHS500P	AV-UHS500
AV-UHS500E	

#### Illustrations and screen displays featured in the manual

- What is shown in the manual's illustrations and screen displays may differ from how it is actually appears.

# Read this first!



**CAUTION**  
**RISK OF ELECTRIC SHOCK**  
**DO NOT OPEN**



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER TO SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the appliance.

## WARNING:

- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- To reduce the risk of fire or electric shock, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

## CAUTION:

To reduce the risk of fire or electric shock and annoying interference, use the recommended accessories only.

## CAUTION:

To reduce the risk of fire or shock hazard, refer changes of switch settings inside the unit to qualified service personnel.

## FCC NOTICE (USA)

### Supplier's Declaration of Conformity

Model Number: AV-UHS5M6G

Trade Name: Panasonic

Responsible Party: Panasonic Corporation of North America

Two Riverfront Plaza, Newark, NJ 07102

Support contact: 1-800-524-1448

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### FCC Note:

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### Warning:

To assure continued FCC emission limit compliance, the user must use only shielded interface cables when connecting to external units. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate it.

## NOTIFICATION (Canada)

CAN ICES-003 (A)/NMB-003(A)

 indicates safety information.

# Read this first!

## CAUTION:

- Do not touch this product with wet hands.
- Do not drop this product or subject it to strong shock.
- Avoid touching the product components and board pattern. (Follow these precautions to protect against damage from electrostatic shock.)

## IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



S3125A

### Disposal of Old Equipment

#### Only for European Union and countries with recycling systems



This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products must not be mixed with general household waste.

For proper treatment, recovery and recycling of old products, please take them to applicable collection points in accordance with your national legislation.

By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment.

For more information about collection and recycling, please contact your local authority, dealer or supplier.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

The symbols on this product represent the following:

== DC

### Manufactured by:

Panasonic Connect Co., Ltd.  
4-1-62 Minoshima, Hakata-ku, Fukuoka 812-8531, Japan

### Importer:

Panasonic Connect Europe GmbH

### Authorized Representative in EU:

Panasonic Testing Centre  
Winsbergring 15, 22525 Hamburg, Germany

### Importer for UK:

Panasonic Connect UK,  
a branch of Panasonic Connect Europe GmbH,  
Maxis 2, Western Road, Bracknell, Berkshire, RG12 1RT

# Read this first!

## ІНФОРМАЦІЯ ПРО ПІДТВЕРДЖЕННЯ ВІДПОВІДНОСТІ ПРОДУКТУ

Виробник:	Panasonic Connect Co., Ltd.	Панасонік Коннект Ко., Лтд.
Адреса виробника:	Fukuoka, Japan	Фукуока Японія
Країна походження:	Japan	Японія

Імпортёр:	ТОВ "ПАНАСОНІК УКРАЇНА ЛТД"
Адреса Імпортёра:	вул. Васильківська, буд. 30, м. Київ 03022, Україна

### Примітки:

Термін служби виробу	7 років
----------------------	---------

Дату виготовлення можна визначити за комбінацією букв і цифр серійного номера, що розташований на маркувальній табличці виробу.

### Приклад:

X X XXXXXXX

Рік: остання цифра року (6 – 2016, 7 – 2017,...0 – 2020)
Місяць: А – Січень, В – Лютий... L – Грудень

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# Before use

## ■ Overview

By fitting this NDI I/F Unit into AV-UHS500, it is able to support NDI® (High bandwidth NDI®)\*1 which achieves high-quality, low-latency image transmission, and NDI®|HX (High efficiency low bandwidth NDI®|HX)\*1 which enables stable transmissions at low bitrates.

It is possible to use a highly reliable IP transfer protocol while using a hardware switcher.

As it is fitted in the rear panel of the AV-UHS500 itself, there is no need to make complicated settings on a separate converter, but rather, an IP streaming system can be built with a single LAN cable. This reduces the time required for preparation, making it simpler to remotely put together a live image production environment in locations such as event sites.

Furthermore, by combining with a Panasonic camera\*2 that is compatible with NDI®\*1 or NDI®|HX\*1, 1 LAN cable makes it possible to transmit images, control cameras, and output tally controls.

So not only is image transmission possible, cameras can also be controlled remotely, meaning that the operator and cameraman do not have to be on site to enable live transmission. This opens up a range of options for working in the production space.

\*1 In this instance, NDI® is used to indicate low latency with high bandwidth NDI®, NDI®|HX is used to indicate high efficiency low bandwidth NDI®|HX.

NDI® is a new protocol developed by NewTek, Inc. that supports IP video production workflow.

NDI® is a registered trademark of NewTek, Inc. in the United States and other countries.

\*2 Panasonic 4K integrated cameras, HD integrated cameras, and the AG-CX350 memory card camera recorder.

For information about 4K integrated cameras and HD integrated cameras that are compatible with NDI® and NDI®|HX, refer to the following website:

<https://connect.panasonic.com/en/>

## ■ Disclaimer of warranty

IN NO EVENT SHALL Panasonic Connect Co., Ltd. BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

- ① ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;
- ② PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;
- ③ UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;
- ④ INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO ANY REASON OR CAUSE INCLUDING ANY FAILURE OR PROBLEM OF THE PRODUCT;

- ⑤ ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;
- ⑥ ANY INCONVENIENCE, DAMAGES OR LOSSES RESULTING FROM ACCIDENTS CAUSED BY AN INADEQUATE INSTALLATION METHOD OR ANY FACTORS OTHER THAN A DEFECT IN THE PRODUCT ITSELF;
- ⑦ LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE;
- ⑧ ANY DAMAGE OR CLAIMS DUE TO LOSS OR LEAKAGE OF IMAGE DATA OR SETTING DATA SAVED ON THIS UNIT OR ON A MEMORY CARD OR COMPUTER.

## ■ Network security

This unit has functionality to connect to networks for use. Using the unit when it has been connected to a network may possibly give rise to the following issues.

- ① Leakage or theft of information through this unit
- ② Use of this unit for illegal operations by persons with malicious intent
- ③ Interference with or stoppage of this unit by persons with malicious intent

It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this unit in a network secured by a firewall, etc.
- If this unit is connected to a network that includes computers, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated antivirus program, anti-spyware program, etc.).

The following points should be borne in mind as well.

- Use with the same segment is recommended for the equipment which is connected to the unit.  
If the unit is connected to equipment whose segments are different, events dependent upon the settings inherent to the network equipment, for instance, may occur so thoroughly check the connections with the equipment to which the unit will be connected prior to the start of operation.
- Do not choose an installation location where the unit, cables and other parts will be easily damaged.
- NDI communication may become unstable in some network environments.  
Confirm the planned amount of NDI traffic by roughly calculating the volume of NDI communication, then make sure there is enough latitude in the line speed.  
When multiple references are made to a single NDI source, there is an expansion in NDI signal volume on the transmission side corresponding to the number of references.  
Investigate the use of multicasting if it appears to be required by the system design.

# Precautions for use

---

- **Handle carefully.**

Do not drop the product, or subject it to strong shock or vibration. This is important to prevent malfunctioning or accidents.

- **Use the product in an ambient temperature of 0 °C to 40 °C (32 °F to 104 °F).**

Avoid using the product at a cold place below 0 °C (32 °F) or at a hot place above 40 °C (104 °F) because extremely low or high temperature will adversely affect the parts inside.

- **Power off before connecting or disconnecting cables.**

Before plugging or unplugging the cables, be sure to switch power off.

- **Avoid humidity and dust.**

Avoid using the product at a humid, dusty place because much humidity and dust will cause damage to the parts inside.

- **Maintenance**

Turn off the power of AV-UHS500 and wipe the product using a dry cloth. To remove stubborn dirt, dip a cloth into a diluted solution of kitchen detergent (neutral), wring it out well, and wipe the product gently. Then, after wiping the product with a moist cloth, wipe it again with a dry cloth.

**Caution**

- Avoid using benzene, paint thinners and other volatile fluids.
- If a chemical cleaning cloth is to be used, carefully read through the precautions for its use.

- **Precaution to be observed during production**

The image switching and image effect functions of AV-UHS500 can be used to produce images which flicker rapidly or images which change rapidly.

However, bear in mind when using these functions in production that the kinds of images produced may have an adverse effect on the viewer's physical well-being.

- **When the product is to be discarded**

When the product is to be discarded at the end of its service life, ask a specialized contractor to dispose of it properly in order to protect the environment.

## Features

---

**This unit is an optional unit (NDI I/F Unit) that enables expanded functionality for the AV-UHS500.**

**It supports the following signal formats:**

- 4K formats  
2160 × 59.94p, 2160 × 50p,  
2160 × 29.97p, 2160 × 25p, 2160 × 24p, 2160 × 23.98p
- 2K formats  
1080 × 59.94p, 1080 × 50p,  
1080 × 29.97p, 1080 × 25p, 1080 × 24p, 1080 × 23.98p,  
720 × 59.94p, 720 × 50p

# Installation and connections (Be sure to ask your dealer.)

## ■ How to install the unit

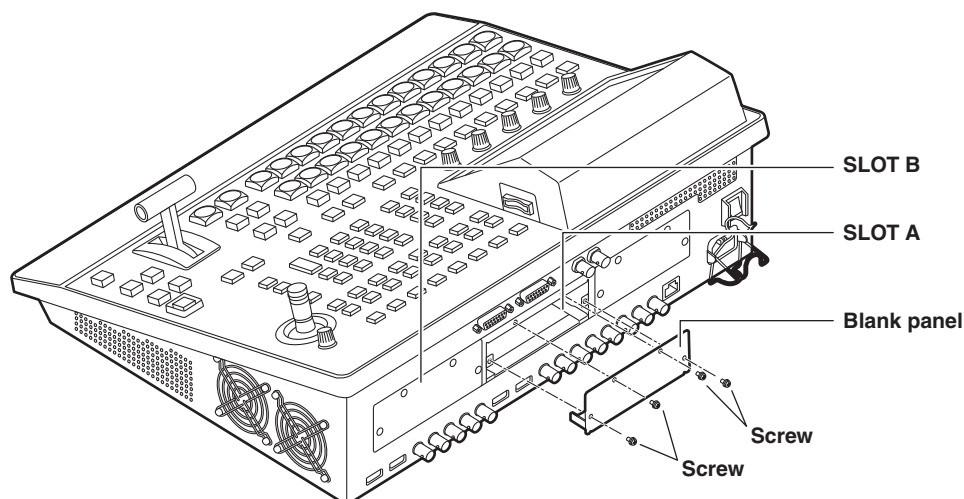
AV-UHS5M6	SLOT A	IN-A1, IN-A2, IN-A3, IN-A4, OUT-A1, OUT-A2
	SLOT B	IN-B1, IN-B2, IN-B3, IN-B4, OUT-B1, OUT-B2

### Notes

- Before installing or removing the unit, turn off the power of AV-UHS500 and disconnect the power plug.
- Before touching this unit, touch some grounded metal to discharge any static electricity stored in your body.  
A safe way to proceed is to wear an anti-static wrist strap.  
This unit may be damaged if you touch it with static still in your body.
- Do not break the unit by applying strong shocks or dropping it.
- After removing this unit, be absolutely sure to attach the blank panel.
- When installing or removing this unit, take care not to injure yourself on edges or metal parts of the unit.

① Turn off AV-UHS500 and disconnect the power cable.

② Loosen the four screws of SLOT A or SLOT B at the back of the unit, and remove the blank panel.

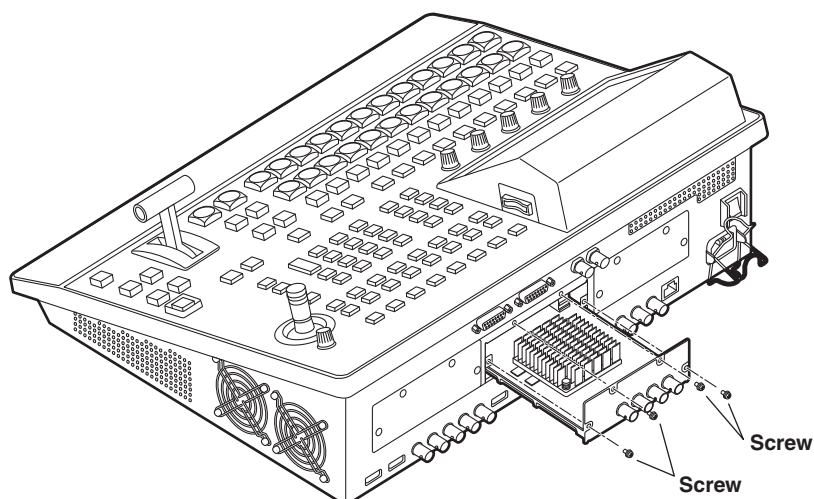


③ Insert slowly, following the guide rails in the slot on the main unit.  
Insert it until it will go no further. Take care not to exert excessive force while doing this since that may damage the connector inside.

# Installation and connections (Be sure to ask your dealer.)

---

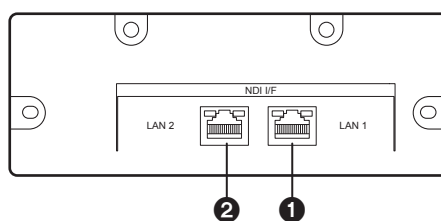
- ④ Secure this unit with the 4 screws.  
**Clamping torque: 0.7 N•m**



- ⑤ After connecting the necessary cables, plug the power cable into the power outlet, and turn on the power.

## Parts and their functions

---



**① LAN connector [LAN1] (RJ-45) (1000Base-T)**

Connect to NDI input/output devices and network switches with a LAN cable.

**② LAN connector [LAN2] (RJ-45) (1000Base-T)**

Connect to NDI input/output devices and network switches with a LAN cable.

- Use a CAT5e or better, straight or crossover (STP (Shielded Twisted Pair) LAN cable, maximum 100 m (328 ft)).

# List of Functions

---

The main functions supported by this unit are listed below.  
Refer to the following chapters for details regarding settings.

Function	Description
High Bandwidth NDI® input	High image quality streaming input. In most cases, NDI® is this format and also includes the audio signal. High/Low Bandwidth NDI® will be referred to in this manual as NDI from hereon.
NDI® HX version1 input	A protocol developed by Panasonic is used to search for remote cameras and other image transmission devices that support NDI® HX. Only compatible with H.264. Audio is AAC format. NDI® HX will be referred to in this manual as NDI HX from hereon.
NDI® HX version2 input	NDI® protocol is used to search for remote cameras and other image transmission devices that support NDI® HX. Only compatible with H.264. Audio is AAC format.
High Bandwidth NDI® output	High image quality streaming output. In most cases, NDI® is this format and also includes the audio signal. Output constantly together with Low Bandwidth NDI®.
Low Bandwidth NDI® output	Medium quality stream is output with a greatly reduced bandwidth. The audio signal is also included. Output constantly together with High Bandwidth NDI®.
Remote camera control function	Remote cameras that support NDI® PTZ commands can be controlled. Remote cameras that support NDI® or NDI® HX version2 or later can be controlled.


- NDI® is a new protocol developed by NewTek, Inc. that supports IP video production workflow.
- NDI® is a registered trademark of NewTek, Inc. in the United States and other countries.
- In this instance, NDI® is used to indicate low latency with high bandwidth NDI®, NDI®|HX is used to indicate high efficiency low bandwidth NDI®|HX.

# Common settings

## Network interface settings

Make network settings required for the input and output of NDI signals.  
The system must be restarted for the settings to take effect.  
Turn off the main unit, then turn the main unit on again.


### IP address/subnet mask/gateway settings

- ① Press the  button to light its indicator, and display the System menu.
- ② Use [F1] to display the NDI I/F Slot A LAN 1 1/2 sub menu.
  - To set the LAN 2 IP address, display the NDI I/F Slot A LAN 2 1/2 sub menu.
  - If this unit has been inserted in option slot B of AV-UHS500, display the NDI I/F Slot B LAN 1 1/2 or NDI I/F Slot B LAN 2 1/2 sub menu.

NDI I/F SlotA	IP Address	Subnet Mask	Default Gateway
LAN1 1/2	192.168.0.6	255.255.255.0	

- ③ Use [F1] to [F5] in the IP Address item to enter the IP address, then press [F4] (OK) to confirm.
- ④ Use [F1] to [F5] in the Subnet Mask item to enter the IP address, then press [F4] (OK) to confirm.
- ⑤ Use [F1] to [F5] in the Default Gateway item to enter the IP address, then press [F4] (OK) to confirm.
  - This is blank if it is not set.

### Displaying the MAC address


- ① Press the  button to light its indicator, and display the System menu.
- ② Use [F1] to display the NDI I/F Slot A LAN 1 2/2 sub menu.
  - To set the LAN 2 MAC address, display the NDI I/F Slot A LAN 2 2/2 sub menu.
  - If this unit has been inserted in option slot B of AV-UHS500, display the NDI I/F Slot B LAN 1 2/2 or NDI I/F Slot B LAN 2 2/2 sub menu.

NDI I/F SlotA	MAC Address
LAN1 2/2	00-80-45-2F-30-75

- ③ The MAC address is displayed.

## Option slot connection status

You can confirm that this unit is inserted in the option slot of AV-UHS500 and is working correctly.

- ① Press the  button to light its indicator, and display the System menu.
- ② Use [F1] to display the Option sub menu.

Option	Slot A	Slot B
	NDI I/F	None


- ③ Depending on which of the option slots this unit has been inserted in, "NDI I/F" is displayed in the Slot A item or the Slot B item.
  - The display is "None" when there is no connection.

# Common settings

Version information

Updating the version

Displays the software version information for the unit.

- ① Press the  button to light its indicator, and display the System menu.
- ② Use [F1] to display the NDI I/F Version sub menu.

NDI I/F Version	Version		
--------------------	---------	--	--

- The system version of the unit is displayed in the Version item.
- ③ Use [F1] to display the NDI I/F SlotA Core Version sub menu.


NDI I/F SlotA Core Version	Version	Update Execute	
-------------------------------	---------	-------------------	--

- The system core version of this unit that has been inserted in option slot A of AV-UHS500 is displayed in the Version item.
- ④ Use [F1] to display the NDI I/F SlotB Core Version sub menu.

NDI I/F SlotB Core Version	Version	Update Execute	
-------------------------------	---------	-------------------	--

- The system core version of this unit that has been inserted in option slot B of AV-UHS500 is displayed in the Version item.

It is possible to update the system core version of this unit.

- ① Press the  button to light its indicator, and display the System menu.
- ② Use [F1] to display the NDI I/F SlotA Core Version sub menu.

NDI I/F SlotA Core Version	Version	Update Execute	
-------------------------------	---------	-------------------	--

- If there is an update for the system core, updating is possible by pressing [F4] (Execute) in the Update item.  
Refer to the updating procedures for details.
  - If there is no update for the system core version available, the Update item is grayed out and pressing [F4] (Execute) is not possible.
- ③ Use [F1] to display the NDI I/F SlotB Core Version sub menu.

NDI I/F SlotB Core Version	Version	Update Execute	
-------------------------------	---------	-------------------	--

- If there is an update for the system core, updating is possible by pressing [F4] (Execute) in the Update item.  
Refer to the updating procedures for details.
- If there is no update for the system core version available, the Update item is grayed out and pressing [F4] (Execute) is not possible.

# Settings related to input

The NDI/NDI|HX signals that can be input to this unit are as follows:

Format	Maximum inputs	NDI/NDI HX signals
2K	4	This is the maximum number of inputs when only NDI signals are input. Up to 2 NDI HX signals can be mixed.
4K	1	NDI HX input is not possible.


## NDI|HX

This unit supports NDI|HX version1 and NDI|HX version2 when the system format set on AV-UHS500 is 2K mode. Both NDI|HX version1 and NDI|HX version2 support H.264 as the image compression standard.

## Input signal settings

When the unit is connected to an option slot in AV-UHS500, you can set IN-A1 to 4 (or IN-B1 to 4).

When setting NDI input signals, first set the input signal you want to set in the Input sub menu.

- Press the  button to light its indicator, and display the Input menu.

- Use [F1] to display the Input sub menu.



- Use [F2] to select the input signals using the Select item.

The menu display is switched in accordance with the input signals which have been selected.

The menu title is set to "MENU: Input (signal type)/input connector (material name)".

<b>Signal type</b>	NDI
<b>Material name</b>	Material name set in "Setting the material names".

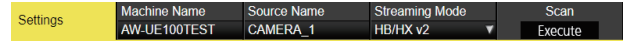
### <Example of menu (NDI)>



### Notes

- If the system mode of AV-UHS500 is 4K, NDI input signals can be assigned to IN-A1/IN-B1.
- If the system mode of AV-UHS500 is 2K, NDI|HX input signals can be assigned to IN-A3, IN-A4/IN-B3 or IN-B4.

- Use [F1] to display the Settings sub menu.



- Use [F4] to select the mode to use for searching for NDI input source on the network.

<b>HB/HX v2</b>	Searches for NDI or NDI HX version2 input sources.
<b>HX v1</b>	Searches for NDI HX version1 input sources.

- Press [F5] (Execute) in the Scan item to execute the machine search.

- The search results are displayed in a list in the format MACHINE NAME(SOURCE NAME).
- Machine searches on a network may take some time.

- Select combination of the device to be set as the input source and the NDI image source with [F2], then confirm with [F4].

- This can be unselected by selecting "None".

# Settings related to input

## Checking the input signal status

You can check the status of the NDI signal being input to this unit.

- ① Use [F1] to display the NDI Status 1/2 sub menu.

NDI Status	Format	Sampling Rate	Audio Channel
1/2	1080/59.94p	48000	2

This unit automatically determines the content of the NDI input signal and displays the following information:

<b>Format</b>	Displays the image format information for the NDI signal being input.
<b>Sampling Rate</b>	Displays the sampling rate information for the NDI signal being input.
<b>Audio Channel</b>	Displays the surround information for the NDI signal being input.

- ② Use [F1] to display the NDI Status 2/2 sub menu.

NDI Status	Frame Data	Compress	Streaming Mode
2/2	SHQ2	-	HB

This unit automatically determines the content of the NDI input signal and displays the following information:

<b>Frame Data</b>	Displays the color information for the NDI signal being input.
<b>Compress</b>	Displays the compression format information for the NDI signal being input.
<b>Streaming Mode</b>	Displays the format information for the NDI signal being input.

## Reception protocol settings

Sets the protocol to use with the NDI transmitter.

- ① Use [F1] to display the Protocol sub menu.

Protocol	Protocol			
	TCP			

- ② Use [F2] to set the protocol to use with the NDI transmitter in the Protocol item.

<b>TCP</b>	Sets TCP as the protocol to use with the NDI transmitter. (Default) Permits communication using mTCP, UDP, and sTCP.
<b>UDP</b>	Sets UDP as the protocol to use with the NDI transmitter. Permits communication using UDP and sTCP.

- The superior protocol is selected through negotiations with the protocol settings on the NDI transmission side.
- The priority order for each protocol is mTCP -> UDP -> sTCP.

### Notes

- sTCP (single TCP): A connection-oriented communication method that guarantees accurate delivery of data, but the communication speed is slower compared to UDP.
- UDP: A connectionless communication method that enables high-speed data transfers, but the reliability of that data is less than TCP.
- mTCP (multi-path TCP): An extended set of the Transfer Control Protocol (TCP) specification. It is possible to connect to the same address via multiple connections.  
It is effective in improving the reliability of data communications over a network by using multiple network adapters.
- It is necessary to fix the protocol to UDP when performing multicast transmissions.

## Setting the material names

Material names can be given to the input signals. These names can be selected from the default settings or user settings.

- ① On the Input sub menu, use [F2] to select the input to be set using the Select item.  
Refer to "Input signal settings".

- ② Use [F1] to display the Name sub menu.

Name	Type	Name		
	Default			
	Default			
	User			

- ③ Use [F2] to select the type of material names using the Type item.

<b>Default (default settings)</b>	Select the material names from the following: IN1, IN2, SDI IN3 to 8, IN-A1 to 4, IN-B1 to 4
<b>User (user settings)</b>	The material names are set using up to 32 characters.

- It is possible to use the Machine Name included with the NDI signal as is as the User source name.
- ④ Press [F4] (Execute) in the Copy From NDI item in the Name sub menu.
- If the Type item is User, NDI Machine Name is copied to the Name item.

# Settings related to input

Setting groups

RTSP port settings

By setting NDI senders and receivers in groups to which each belongs, you can specify the group to be searched when performing machine searches.  
It is possible to specify multiple groups, separating them with commas.

This function is not available with NDI|HX version1.

- ① Use [F1] to display the Group sub menu.



- ② Use [F2] in the Group item to enable or disable the group search function.

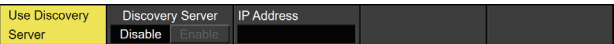
Enable	Group search function enabled.
Disable	Group search function disabled. (Default)

- ③ Press [F3] in the Name item to enter the group name.
- You can enter a character string of up to 64 characters.

Discovery Server settings

It is possible to set the function for automatically searching for NDI sources to centrally register with an external server.  
Enabling this setting is effective when there is a large amount of NDI sources on the network and it is desirable to avoid an increase in traffic, or when multicast transmission is not possible or undesirable.

- ① Use [F1] to display the Use Discovery Server sub menu.



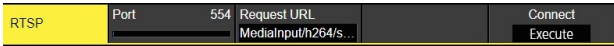
- ② Use [F2] in the Use Discovery Server item to select whether to set an external server.

Enable	External server settings enabled.
Disable	External server settings disabled. (Default)

- ③ Press [F3] in the IP Address item to set the IP address of the external server.

You can set the port and the request URL of the AV-UHS500 to match the RTSP port settings of the camera to be connected.  
This function is effective with NDI|HX version1.

- ① Use [F1] to display the RTSP sub menu.



- ② Use [F2] in the Port item to enter the RTSP port number to match the camera settings.
- Port numbers 10668, 10669, and 10670 cannot be used.
- ③ Use [F3] in the Request URL item to enter the Request URL to match the camera settings.
- Enter a character string of up to 255 characters.
- ④ After entering Port and Request URL, press [F5] (Execute) in the Connect item to update the settings with the changes.

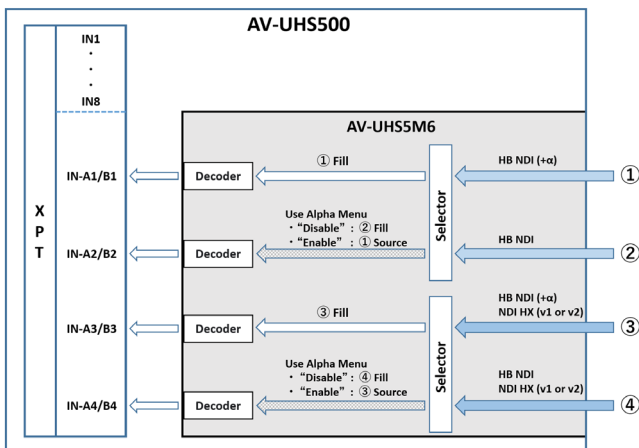
# Settings related to input

## Input settings for NDI signals with Alpha Channels

This unit is capable of inputting up to two sets of High Bandwidth NDI signals with Alpha Channels. This function is enabled when the system format set on the AV-UHS500 itself is 2K mode.

When one set of NDI signals with Alpha Channels is to be input, Fill is allocated to either IN-A1 or IN-A3 (or IN-B1 or IN-B3) and Source is allocated to either IN-A2 or IN-A4 (or IN-B2 or IN-B4).

It is also possible to simultaneously use two sets of input to IN-A1 and IN-A3 (or IN-B1 and IN-B3).



① Press the button to light its indicator, and display the Input menu.

② Use [F1] to display the Input sub menu.



③ Use [F2] to select the input signals using the Select item.  
When inputting NDI signals with Alpha Channels, select IN-A1/A3/B1/B3.

④ Use [F1] to display the Alpha Settings sub menu.



⑤ Use [F2] to set whether to enable or disable input of NDI signals with Alpha Channels in the Use Alpha item.

<b>Disable</b>	Input of NDI signals with Alpha Channels disabled In this case, input of normal NDI signals is possible to the partner inputs (IN-A2/B2 for IN-A1/B1 and IN-A4/B4 for IN-A3/B3).
<b>Enable</b>	Input of NDI signals with Alpha Channels enabled Fill is allocated to the relevant input in this case. Source of the relevant input is allocated to the partner input.

- When the Use Alpha item is set to Enable and normal NDI signals without Alpha Channels are input, there is no video signal input to the partner input.
- When the Use Alpha item is set to Disable and NDI signals with Alpha Channels are input, the images may be disrupted.  
Input normal NDI signals without Alpha Channels.

## Viewing the status of NDI signals with Alpha Channels

You can view the status of NDI signals with Alpha Channels that are input to this unit.

① Press the button to light its indicator, and display the Input menu.

② Use [F1] to display the Input sub menu.



③ Use [F2] to select the input signals using the Select item.

④ Use [F1] to display the Alpha Settings sub menu.



⑤ The type of Alpha Channels in the NDI signal input is displayed in the Type item.

<b>Fill</b>	Fill signal of the input NDI signals with Alpha Channels
<b>Source</b>	Source signal of the input NDI signals with Alpha Channels
—	Not an NDI signal with Alpha Channel When the Use Alpha item is set to Disable

⑥ Whether there are Alpha Channels in the input NDI signals is displayed in the Alpha Signal item.

<b>Detect</b>	NDI input signal with Alpha Channel
<b>Not Detect</b>	Not an NDI input signal with Alpha Channel

- When the Use Alpha item is set to Enable and NDI input signals without Alpha Channels are input, a Key Source signal can be artificially added.

⑦ Use [F5] in the Key Source BKGD item to select the Key Source signal.

<b>White</b>	A white Key Source signal is artificially added to the normal NDI input signal.
<b>Black</b>	A black Key Source signal is artificially added to the normal NDI input signal.

- There may be a time lag between when you switch to an NDI signal without an Alpha Channel and when the Key Source signal is artificially added.

# Settings related to output

The NDI signals that can be output by this unit are as follows:

Format	Maximum outputs	NDI signals
2K	2	NDI High Bandwidth and Low Bandwidth are output constantly.
4K	1	NDI High Bandwidth and Low Bandwidth are output constantly. NDI HX output is not possible.


For NDI signals, there is 1 output of High Bandwidth and 1 output of Low Bandwidth output constantly with each NDI output.

## NDI|HX

This unit can only output NDI signals. It cannot output NDI|HX version1/2 signals.

## Assigning output signals

Assign NDI output signals.

- ① Use [F2] from the Output sub menu to select the output to be set in the Select item.  
 Refer to “Common output signal settings”.
  - NDI output can be assigned to OUT-A1 and OUT-A2 or OUT-B1 and OUT-B2.
  - If the system mode is 4K, allocation can only be to OUT-A1 or OUT-B1.

- ② Use [F1] to display Assign sub menu.


Assign	Source AUX1			
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- ③ Use [F2] to set the output signal type in the Source item.

<b>PGM</b>	Images are output via the main line of the switcher with effects such as wipes, mixes, keys, and downstream keys added.
<b>PVW</b>	Preview is output to enable checking of the subsequent operation.
<b>CLN</b>	Clean signal is output (images with effects such as keys and downstream keys removed from the PGM signal).
<b>ME PGM</b>	ME PGM signal is output (images with downstream keys removed).
<b>AUX1 to 4</b>	Signal selected from an AUX bus with four lines (AUX1 to AUX4) is output.
<b>MV1, MV2</b>	Multi view display is output. Multiple input signals and output signals are shrunk and output to a single screen.
<b>KeyOut</b>	A key signal is output.

## Common output signal settings

On this unit, it is possible to set with character strings the Machine Name and Source Name displayed when searching from an NDI receiver.

- ① Press the  button to light its indicator, and display the Output menu.
- ② Use [F1] to display the Common Setup sub menu.

Common Setup	Machine Name AV-UHS500	Source Name NDI Device A1	Protocol TCP
-----------------	---------------------------	------------------------------	-----------------

- ③ Use [F2] to set the name to be displayed on the NDI receiver in the Machine Name item.
  - You can enter character strings of up to 20 characters each for the Machine Name in OUT-A1, OUT-A2, OUT-B1, and OUT-B2.
- ④ Use [F3] to set the name to be displayed on the NDI receiver in the Source Name item.
  - You can enter a character string of up to 32 characters.

### <Characters which can be used for filenames>

A to Z, a to z, 0 to 9, -, \_

## Transmission protocol settings

Set the protocol to use with the NDI receiver.

- ① Use [F1] to display the Common Setup sub menu.

Common Setup	Machine Name AV-UHS500	Source Name NDI Device A1	Protocol TCP
-----------------	---------------------------	------------------------------	-----------------

- ② Use [F4] to set the protocol to use with the NDI receiver in the Protocol item.

<b>TCP</b>	TCP is set as the protocol to use with the NDI receiver. (Default)
<b>UDP</b>	UDP is set as the protocol to use with the NDI receiver.

# Settings related to output

## Multicast settings

Set whether to enable or disable multicast transmission for the NDI receiver.

When multicast transmissions are to be enabled, transmissions are made according to the settings for IP address, subnet mask, and TTL/HOP Limit.

With this unit, it is possible to perform multicast transmissions within the same subnet.

Also, multicast transceiving is only possible via the LAN2 connector.

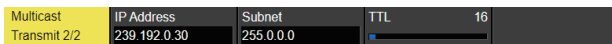
- ① Use [F1] to display Multicast Transmit 1/2 sub menu.



- ② Use [F2] to set whether to enable or disable multicast transmissions in the Multicast item.

On	Multicast transmission to the NDI receiver is enabled.
Off	Multicast transmission to the NDI receiver is disabled. (Default)

- ③ Use [F1] to display Multicast Transmit 2/2 sub menu.



- ④ Use [F2] to [F4] to set the IP address, subnet mask, and TTL.

## Setting groups

By setting NDI senders and receivers in groups to which each belongs, you can specify the group to be searched when performing machine searches.

It is possible to specify multiple groups, separating them with commas.

- ① Use [F1] to display Group sub menu.



- ② Use [F2] in the Group item to enable or disable the group search function.

Enable	Group search function enabled.
Disable	Group search function disabled. (Default)

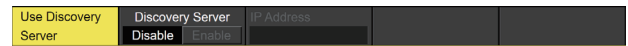
- ③ Press [F3] in the Name item to enter the group name.
  - You can enter a character string of up to 64 characters.

## Discovery Server settings

It is possible to set the function for automatically searching for NDI sources to centrally register with an external server.

Enabling this setting is effective when there is a large amount of NDI sources on the network and it is desirable to avoid an increase in traffic, or when multicast transmission is not possible or undesirable.

- ① Use [F1] to display Use Discovery Server sub menu.



- ② Use [F2] in the Use Discovery Server item to select whether to set an external server.

Enable	External server settings enabled.
Disable	External server settings disabled. (Default)

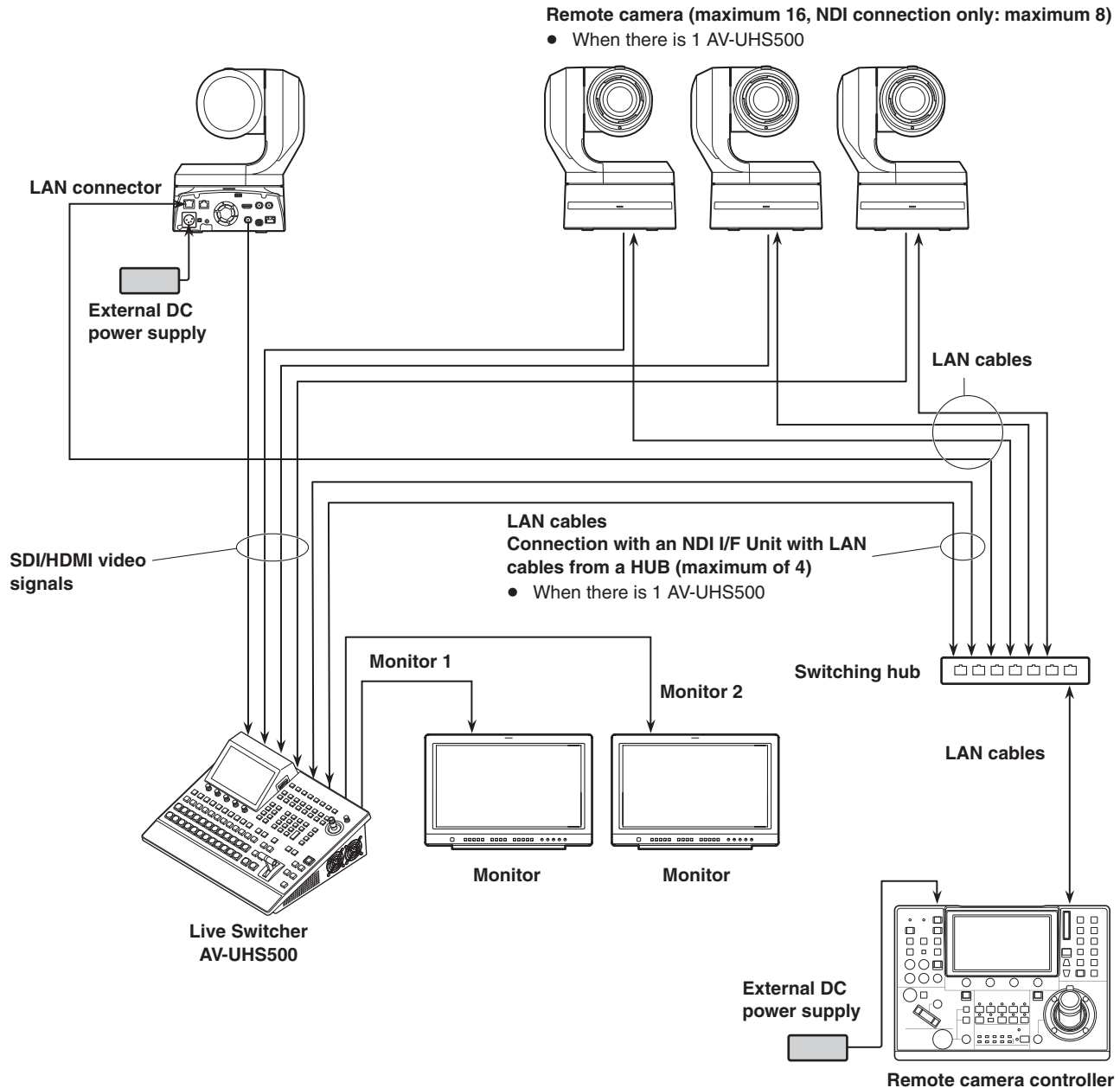
- ③ Press [F3] in the IP Address item to set the IP address of the external server.

# Remote camera link functions

Each AV-UHS500 unit can connect to a maximum of 4 remote cameras via NDI connection, and these can be remotely controlled.

For compatibility with remote camera products that can be connected, refer to the AV-UHS500 page on the following website:  
<https://pro-av.panasonic.net/en/products/av-uhs500/>

## ■ Examples of connections



- For connection between AV-UHS500 and remote cameras, use a GbE compatible switching hub and CAT5e or better STP LAN cables.
- Furthermore, design a network so that IP addresses for AV-UHS500 and the remote cameras are within the same subnet.

# Remote camera link functions


The control functions supported by this unit for remote cameras connected via NDI to this unit are listed below:

- Playback and registration of up to a maximum of 100 preset memories is possible
- Pan and tilt control of the connected remote cameras is possible using the positioner of AV-UHS500
- Zoom control of the connected remote cameras is possible using the encoder of AV-UHS500
- Focus and iris control of the connected remote cameras is possible using the encoder of AV-UHS500
- It is possible to individually disable control of pan, tilt, zoom, focus, and iris
- Tally control of the connected remote cameras is possible by linking with the tally status of AV-UHS500

### Notes

- It is not possible to control remote cameras that support only NDI|HX version1.
- When remote controlling from AV-UHS500 via an NDI connection, only remote cameras connected to IN-A1 to 4 or IN-B1 to 4 can be subject to control.
- The connected device needs to support NDI commands. Refer to the operating instructions of the connected device.
- The explanations in this chapter refer to cases when the Connection item for remote camera control method is set to NDI. For previous remote camera control methods, refer to “Remote camera link functions” in the operating instructions for AV-UHS500.

## Checking the remote camera connection status

- ① Press the  button to display the Camera menu.
  - ② Use [F1] to display the Camera Information sub menu.
- |                    |                       |        |         |                      |
|--------------------|-----------------------|--------|---------|----------------------|
| Camera Information | Input Selection IN-A4 | Name - | Model - | Status No IP Address |
|--------------------|-----------------------|--------|---------|----------------------|
- ③ Use [F2] to select the remote camera input source to be set in the Input Selection item.


- You can view the following information:

Name	Displays the Source Name of the remote camera connected via NDI to AV-UHS500. The name set on the remote camera is displayed.
Model	Displays the Machine Name of the remote camera connected via NDI to AV-UHS500. The name set on the remote camera is displayed.

- This item cannot be viewed when the Connection item explained in the “Remote camera control method settings” section is set to NDI.

## Remote camera control method settings

Set the method for controlling the remote camera connected to AV-UHS500.

- ① Press the  button to light its indicator and display the Input menu.
  - ② Use [F1] to display the Input sub menu.
- |       |              |  |  |  |
|-------|--------------|--|--|--|
| Input | Select IN-A1 |  |  |  |
|-------|--------------|--|--|--|
- ③ Press [F2] and select the input signal to which the remote camera is connected in the Select item.
    - You can set the control method for inputs to IN-A1 to 4 and IN-B1 to 4.
  - ④ Use [F1] to display the PTZ Control sub menu.

PTZ Control	Connection Panasonic			
-------------	----------------------	--	--	--

- ⑤ Use [F2] to set the control method in the Connection item.
- |           |   |
|-----------|---|
| Panasonic | This is the conventional remote camera control method up to now.<br>Refer to “Remote camera link functions” in the operating instructions for AV-UHS500.<br>It is necessary to connect the remote camera to the AV-UHS500 itself via LAN. |
| NDI       | Control of the remote camera is performed by using an NDI connection from AV-UHS500.  |

# Remote camera link functions

## Remote camera operation direction settings

The pan, tilt, zoom, focus, and iris of the remote cameras connected to AV-UHS500 can be controlled using the positioner and encoder of AV-UHS500.  
The settings for the operation direction are made as follows:

- ① Use [F1] to display the Camera Settings3 sub menu.

Camera Settings3	Pan Direction	Tilt Direction	Tally (Group1)	Tally (Group2)
	Normal Reverse	Normal Reverse	Disable Enable	Disable Enable

- ② In the Pan Direction item, set the pan control direction of the remote camera when the positioner on AV-UHS500 is used.

<b>Normal</b>	The operation direction of the positioner and the direction of image movement are the same.
<b>Reverse</b>	The operation direction of the positioner and the direction of image movement are the opposite.

- ③ In the Tilt Direction item, set the tilt control direction of the remote camera when the positioner on AV-UHS500 is used.

<b>Normal</b>	The operation direction of the positioner and the direction of image movement are the same.
<b>Reverse</b>	The operation direction of the positioner and the direction of image movement are the opposite.

- ④ Use [F1] to display the Camera Settings4 sub menu.

Camera Settings4	Zoom Direction	Focus Direction	Iris Direction
	Normal Reverse	Normal Reverse	Normal Reverse

- ⑤ In the Zoom Direction item, set the zoom control direction of the remote camera when [F1]/[F2]/[F3]/[Z] on AV-UHS500 are used.

<b>Normal</b>	Zoom moves to the telephoto end when [F1] is pressed. Zoom moves to the wide end when [F2] is pressed. Zoom moves to the telephoto end when [F3]/[Z] is turned clockwise. Zoom moves to the wide end when [F3]/[Z] is turned counterclockwise.
<b>Reverse</b>	Zoom moves to the wide end when [F1] is pressed. Zoom moves to the telephoto end when [F2] is pressed. Zoom moves to the wide end when [F3]/[Z] is turned clockwise. Zoom moves to the telephoto end when [F3]/[Z] is turned counterclockwise.

- ⑥ In the Focus Direction item, set the focus control direction of the remote camera when [F4] on AV-UHS500 is used.

<b>Normal</b>	Focus moves to the far side with a clockwise turn. Focus moves to the near side with a counterclockwise turn.
<b>Reverse</b>	Focus moves to the near side with a clockwise turn. Focus moves to the far side with a counterclockwise turn.

- ⑦ In the Iris Direction item, set the iris control direction of the remote camera when [F5] on AV-UHS500 is used.

<b>Normal</b>	The iris opens with a clockwise turn. The iris closes with a counterclockwise turn.
<b>Reverse</b>	The iris closes with a clockwise turn. The iris opens with a counterclockwise turn.

## Remote camera tally control settings

The red tally controls and green tally controls of the remote cameras connected to AV-UHS500 can be linked to the red tally and green tally control of AV-UHS500.

- ① Use [F1] to display the Camera Settings3 sub menu.

Camera Settings3	Pan Direction	Tilt Direction	Tally (Group1)	Tally (Group2)
	Normal Reverse	Normal Reverse	Disable Enable	Disable Enable

- ② In the Tally(Group1) item, set linking of the red tally control of AV-UHS500 and the red tally control of the remote camera.

<b>Enable</b>	Linked.
<b>Disable</b>	Not linked.


- ③ In the Tally(Group2) item, set linking of the green tally control of AV-UHS500 and the green tally control of the remote camera.

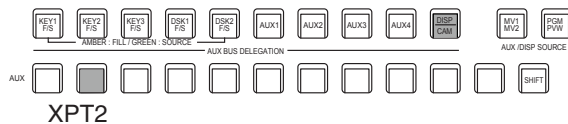
<b>Enable</b>	Linked.
<b>Disable</b>	Not linked.

# Remote camera link functions

## Selecting the cameras to be operated

By connecting remote cameras to AV-UHS500, it is possible to control remote cameras from AV-UHS500 using the positioner and encoder.

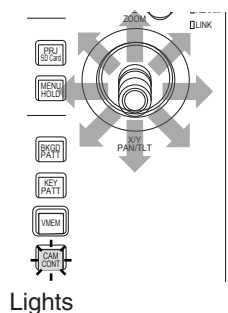
- ① Assign the remote cameras connected to XPT. Refer to “Remote camera control method settings” for information on how to assign.
- ② Press the  button to make it turn green.



- ③ Select the remote cameras assigned in Step ① as the CAM bus sources.
  - The selected buses turn green.

The remote cameras connected via NDI to AV-UHS500 that can be selected as CAM bus sources are the following inputs:

  - IN-A1 to IN-A4
  - IN-B1 to IN-B4
  - Control of remote cameras is available only when either the [CAM PMEM] screen or [CAM CONT] screen is being displayed.
- ④ By moving the positioner left, right, up, and down, you can control pan and tilt of the remote cameras connected to AV-UHS500.





- ⑤ Turning [Z] left and right adjusts the control speed for pan/tilt and operates the zoom.

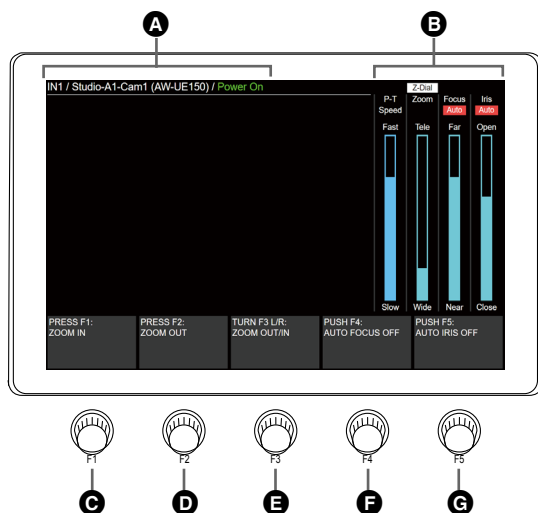
You can switch the control speed and zoom operation by pressing [Z].

# Remote camera link functions

## Controlling in the camera control screen

When a remote camera has been connected to AV-UHS500, it is possible to control the camera whose input images are selected while displaying on the built-in display in the camera control screen.

- ① With the AV-UHS500 and the remote camera connected, press the  button.
- ② The display on the built-in display on AV-UHS500 changes, and the  button turns amber.




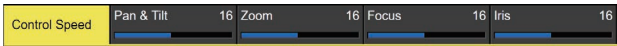
A	Input source information display	The following information is displayed: The CAM bus source material name/Machine Name (Source Name) The name set on the remote camera is displayed in Machine Name (Source Name).
	Camera status	
	No IP Address for Camera	When the IP address has not been set for the camera corresponding to the input signal
	Now Connecting to Camera...	When connecting to the camera for the first time after switching the input signal
B	Z-Dial	Indicates the application for [Z]. Each time you press [Z], operation switches between P-T Speed and Zoom.
	P-T Speed	Indicates the status of the control speed of pan/tilt. "Fast" indicates fast operation and "Slow" indicates slow operation.
	Zoom	Indicates the zoom position. "Tele" indicates the telephoto side and "Wide" indicates the wide side.
	Focus	Indicates the focus position. "Far" indicates the far side and "Near" indicates the near side. "Auto" is displayed when auto focus is on.
	Iris	Indicates the iris status. "Open" indicates that the iris is open and "Close" indicates that the iris is closed. "Auto" is displayed when the auto iris is on.
C	[F1]	Zoom moves to the telephoto end at a constant speed when the button is pressed. An explanation is also displayed on the Menu screen.
D	[F2]	Zoom moves to the wide end at a constant speed when the button is pressed. An explanation is also displayed on the Menu screen.
E	[F3]	Turn left and right to operate the zoom. Zoom to the wide end with a counterclockwise turn and to the telephoto end with a clockwise turn. An explanation is also displayed on the Menu screen.
F	[F4]	Turn left and right to operate the focus. Focus moves to the near side with a counterclockwise turn and to the far side with a clockwise turn. Focus switches between auto and manual when the button is pressed. An explanation is also displayed on the Menu screen.
G	[F5]	Turn left and right to operate the iris. The iris closes with a counterclockwise turn and the iris opens with a clockwise turn. Iris switches between auto and manual when the button is pressed. An explanation is also displayed on the Menu screen.

# Remote camera link functions

## Remote camera control speed settings

Set the pan/tilt control, zoom control speed, focus control speed, and iris control speed of remote cameras connected to AV-UHS500.  
The adjustments can be made in 32 steps, with the control speed increasing the higher the number.

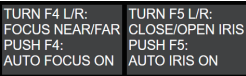
- ① Press the  button to display the Camera menu.
- ② Use [F1] to display the Control Speed sub menu.



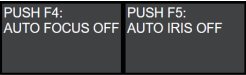
- ③ Use [F2] to set the pan/tilt control speed in the Pan & Tilt item.
- ④ Use [F3] to set the zoom control speed in the Zoom item.
- ⑤ Use [F4] to set the focus control speed in the Focus item.
- ⑥ Use [F5] to set the iris control speed in the Iris item.

## Remote camera lens control settings

The following is a description of the operations in the camera control screen.



When Auto Focus/Auto Iris is "Off":




When Auto Focus/Auto Iris is "On":

# Remote camera link functions

## Disabling remote camera control




Disable the control of pan/tilt, zoom, focus, and iris for remote cameras connected to AV-UHS500.

- ① Press the  button to display the Camera menu.
- ② Use [F1] to display the Lock sub menu.




Lock	Pan & Tilt Lock	Zoom Lock	Focus Lock	Iris Lock
	Off On	Off On	Off On	Off On

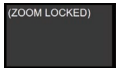
- ③ Use [F2] to set the pan/tilt control and speed adjustment control enable/disable of the remote camera in the Pan & Tilt Lock item.

On	Disable
Off	Enable

- When Lock is engaged and you press either the  button or the  button, “” is displayed above “P-T Speed” at the right of the built-in display.
- ④ Use [F3] to set the zoom control and speed adjustment control enable/disable of the remote camera in the Zoom Lock item.




On	Disable
Off	Enable

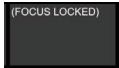
- When Lock is engaged and you press either the  button or the  button, “” is displayed above “Zoom” at the right of the built-in display.
- The [F1]/[F2] operation descriptions will be blank.
- “ZOOM LOCKED” is displayed in the [F3] operation description.



- ⑤ Use [F4] to set the focus control and speed adjustment control enable/disable of the remote camera in the Focus Lock item.




On	Disable
Off	Enable

- When Lock is engaged and you press either the  button or the  button, “” is displayed above “Focus” at the right of the built-in display.
- “FOCUS LOCKED” is displayed in the [F4] operation description.



- ⑥ Use [F5] to set the iris control and speed adjustment control enable/disable of the remote camera in the Iris Lock item.

On	Disable
Off	Enable


- When Lock is engaged and you press either the  button or the  button, “” is displayed above “Iris” at the right of the built-in display.
- “IRIS LOCKED” is displayed in the [F5] operation description.



# Remote camera link functions

## Controlling in the camera preset memory screen

When a remote camera has been connected to AV-UHS500, it is possible to control the camera in the camera preset screen.


- ① Press the  button.
- ② The display on the built-in display on AV-UHS500 changes.
  - You can save and replay preset memories by using the number keys.
  - Use [F5] to change the preset speed.



A maximum of 100 preset memories can be saved on the remote camera connected to AV-UHS500.

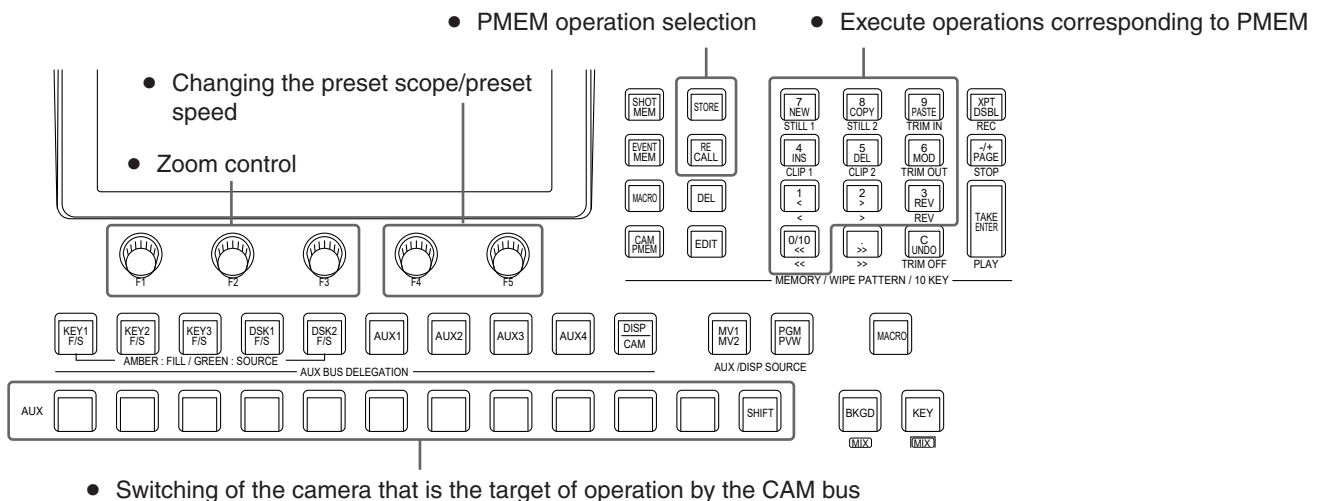
- They are not stored in AV-UHS500.

100 preset memories are divided between 10 pages, so 10 preset memories can be saved in 1 page.

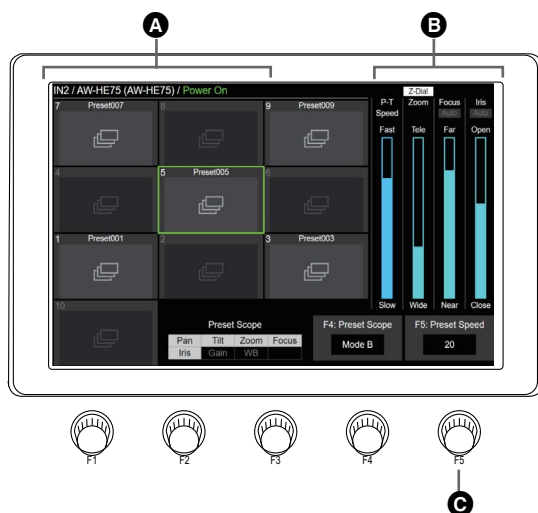
The number key that corresponds to the preset memory that was recalled last on AV-UHS500 turns amber.

You can select the operation for the preset memory each time you press the    buttons.

- While the  button is lit red, you can store preset memories by holding down the number keys.
- While the  button is lit amber, you can execute preset memories by pressing the number keys.



# Remote camera link functions





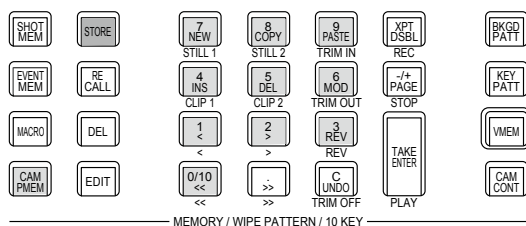
A	Input source information display	The following information is displayed. The CAM bus source material name/Machine Name (Source Name) The name set on the remote camera is displayed in Machine Name (Source Name).			
	Camera status				
	<table><tr><td>No IP Address for Camera</td><td>When the IP address has not been set for the camera corresponding to the input signal</td></tr><tr><td>Now Connecting to Camera...</td><td>When connecting to the camera for the first time after switching the input signal</td></tr></table>	No IP Address for Camera	When the IP address has not been set for the camera corresponding to the input signal	Now Connecting to Camera...	When connecting to the camera for the first time after switching the input signal
No IP Address for Camera	When the IP address has not been set for the camera corresponding to the input signal				
Now Connecting to Camera...	When connecting to the camera for the first time after switching the input signal				
B	Z-Dial	Indicates the application for [Z]. Each time you press [Z], operation switches between P-T Speed and Zoom.			
	P-T Speed	Indicates the status of the control speed of pan/tilt. “Fast” indicates fast operation and “Slow” indicates slow operation.			
	Zoom	Indicates the zoom position. “Tele” indicates the telephoto side and “Wide” indicates the wide side.			
	Focus	Indicates the focus position. “Far” indicates the far side and “Near” indicates the near side. “Auto” is displayed when auto focus is on.			
	Iris	Indicates the iris status. “Open” indicates that the iris is open and “Close” indicates that the iris is closed. “Auto” is displayed when the auto iris is on.			
C	[F5]	Changes the preset speed.			
	0	Minimum speed (When set to the pan/tilt operating time: 99)			
	50	Default value (When set to the pan/tilt operating time: 20)			
	100	Maximum speed (When set to the pan/tilt operating time: 1)			

- Thumbnails are not displayed when the remote camera is connected via NDI and the camera control method is NDI.
- It is not possible to set the pan/tilt operating time for all of the remote cameras. Refer to the user guide for the remote camera for details.



# Remote camera link functions

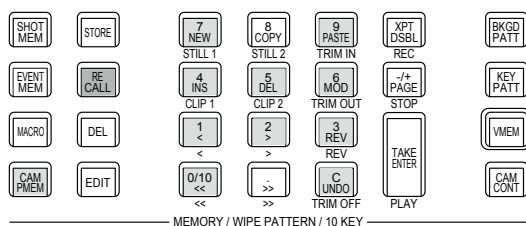
## Storing preset memories

- ① Operate the  button to make it turn amber.
- ② Operate the  button to make it turn red.
- ③ Hold down the number key that corresponds to the preset memory to be stored to store.
  - Preset memories can be stored in number keys 1 to 10.
  - Only the number key that corresponds to the preset memory that was saved last turns green.
  - You cannot delete preset memories that have been saved.



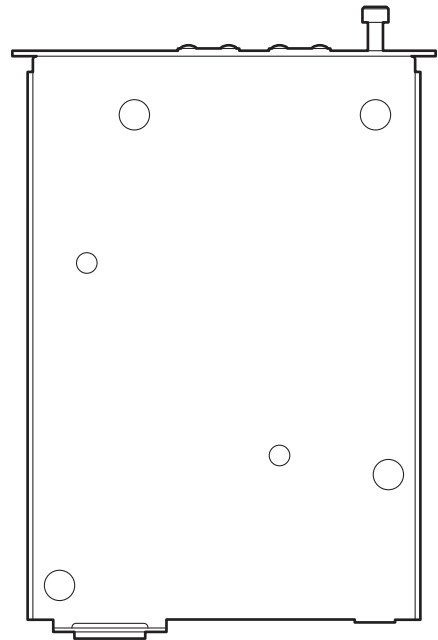
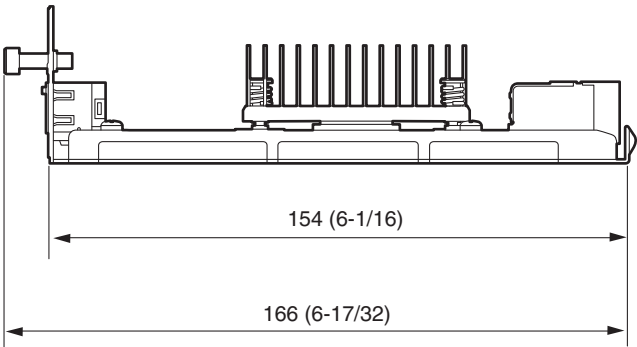
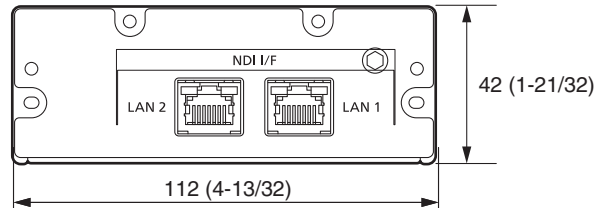
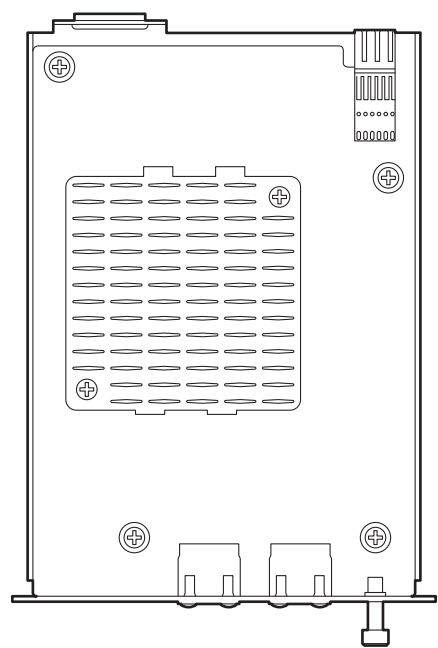
## Recalling preset memories

- ① Operate the  button to make it turn amber.
- ② Operate the  button to make it turn amber.
- ③ When a number key 1 to 10 is pressed, the preset memory that corresponds to the number key is executed.
  - When recalling finishes, the number key that corresponds to the preset memory that was recalled last turns amber.



# Appearance

Unit: mm (inch)



# Specifications

**Power supply:** DC (==) 12 V  
Supplied by AV-UHS500

 indicates safety information.

<LAN 1> and <LAN 2> terminals	Specifications	Compatible with 1000Base-T, AUTO-MDIX, 2 lines* <sup>1</sup> <ul style="list-style-type: none"> <li>Connectors: RJ-45x2, GbE</li> <li>Cable connections: LAN cable (we recommend CAT5e or better, STP (Shielded Twisted Pair), maximum 100 m (328 ft))</li> </ul>
	Supported formats	High Bandwidth NDI/Low Bandwidth NDI/NDI HX* <sup>2</sup>
	Input	Maximum 4 lines Possible input formats <ul style="list-style-type: none"> <li>When system format is 4K High Bandwidth NDI: 2160/59.94p, 2160/50p, 2160/29.97p, 2160/25p, 2160/24p, 2160/23.98p</li> <li>When system format is 2K*<sup>2</sup>, *<sup>3</sup>, *<sup>4</sup>, *<sup>5</sup> High Bandwidth NDI: 1080/59.94p, 1080/50p, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/59.94p, 720/50p</li> </ul> NDI HX: 1920/1080p, 1280/720p* <sup>6</sup>
	Output	Maximum 2 lines Possible output formats <ul style="list-style-type: none"> <li>When system format is 4K High Bandwidth NDI: 2160/59.94p, 2160/50p, 2160/29.97p, 2160/25p, 2160/24p, 2160/23.98p</li> <li>When system format is 2K*<sup>2</sup>, *<sup>5</sup> High Bandwidth NDI: 1080/59.94p, 1080/50p, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/59.94p, 720/50p</li> </ul> <ul style="list-style-type: none"> <li>PGM, PVW, CLN, ME PGM, AUX1 to 4, MV1 and 2, and Key Out can be allocated to the output.</li> </ul>
	Signal processing	4K High Bandwidth NDI : 4:2:0 8bit 2K High Bandwidth NDI : 4:2:2 8bit NDI HX : 4:2:0 8bit
	<p>*<sup>1</sup> The two LAN connectors cannot be connected to the same subnet.  *<sup>2</sup> Support for NDI HX is input only. Only High Bandwidth NDI is supported for output.  *<sup>3</sup> When the system format is 2K, mixed input of High Bandwidth NDI and NDI HX is possible.  *<sup>4</sup> P/I conversion is possible for input when the system format is 2K.  *<sup>5</sup> Not available when the system format is Psf.  *<sup>6</sup> The frame rate for NDI HX depends on the system format.</p>	
<b>Power consumption</b>	14 W 1.1 A	
<b>Ambient operating temperature</b>	0 °C to 40 °C (32 °F to 104 °F)	
<b>Ambient operating humidity</b>	10 % to 90 % (no condensation)	
<b>Storage temperature</b>	0 °C to 40 °C (32 °F to 104 °F)	
<b>Storage humidity</b>	10 % to 90 % (no condensation)	
<b>Weight</b>	Approx. 353 g (Approx. 0.78 lbs.)	
<b>Dimensions (W × H × D)</b>	112 × 42 × 166 mm (4-13/32 inches × 1-21/32 inches × 6-17/32 inches) (excluding protrusions)	

# Setting menu table

Menu	Sub menu		Parameter 1	Parameter 2	Parameter 3	Parameter 4
	Use [F1] to select.		Use [F2] to select.	Use [F3] to select.	Use [F4] to select.	Use [F5] to select.
System  (When unlocked)	NDI I/F Slot A LAN 1 1/2	Parameter	IP Address	Subnet Mask	Default Gateway	
		Setting range	0 to 255	0 to 255	0 to 255	
		Default value	192.168.0.6	255.255.255.0	(blank)	
	NDI I/F Slot A LAN 1 2/2	Parameter	MAC Address			
		Setting range	(Display only)			
		Default value				
	NDI I/F Slot A LAN 2 1/2	Parameter	IP Address	Subnet Mask	Default Gateway	
		Setting range	0 to 255	0 to 255	0 to 255	
		Default value	192.168.10.6	255.255.255.0	(blank)	
	NDI I/F Slot A LAN 2 2/2	Parameter	MAC Address			
		Setting range	(Display only)			
		Default value				
	NDI I/F Slot B LAN 1 1/2	Parameter	IP Address	Subnet Mask	Default Gateway	
		Setting range	0 to 255	0 to 255	0 to 255	
		Default value	192.168.0.7	255.255.255.0	(blank)	
	NDI I/F Slot B LAN 1 2/2	Parameter	MAC Address			
		Setting range	(Display only)			
		Default value				
	NDI I/F Slot B LAN 2 1/2	Parameter	IP Address	Subnet Mask	Default Gateway	
		Setting range	0 to 255	0 to 255	0 to 255	
		Default value	192.168.10.7	255.255.255.0	(blank)	
	NDI I/F Slot B LAN 2 2/2	Parameter	MAC Address			
		Setting range	(Display only)			
		Default value				
	NDI I/F Version	Parameter	Version			
		Setting range				
		Default value				
	NDI I/F SlotA Core Version	Parameter	Version		Update	
		Setting range			Execute	
		Default value				
	NDI I/F SlotB Core Version	Parameter	Version		Update	
		Setting range			Execute	
		Default value				
	Option	Parameter	Slot A	Slot B		
		Setting range	SDI-IN, HDMI-IN, SDI-OUT, HDMI-OUT, 4K-DVE, NDI I/F, None	SDI-IN, HDMI-IN, SDI-OUT, HDMI-OUT, 4K-DVE, NDI I/F, None		
		Default value				

# Setting menu table

Menu	Sub menu		Parameter 1	Parameter 2	Parameter 3	Parameter 4
	Use [F1] to select.		Use [F2] to select.	Use [F3] to select.	Use [F4] to select.	Use [F5] to select.
Input	Input	Parameter	Select			
		Setting range	IN1, IN2, SDI IN3, SDI IN4, SDI IN5, SDI IN6, SDI IN7, SDI IN8, IN-A1, IN-A2, IN-A3, IN-A4, IN-B1, IN-B2, IN-B3, IN-B4			
		Default value	IN1			
Input (NDI) / X(***)*1	NDI Status 1/2	Parameter	Format		Sampling Rate	Audio Channel
		Setting range				
		Default value	(Display only)		(Display only)	(Display only)
	NDI Status 2/2	Parameter	Frame Data	Compress	Streaming Mode	
		Setting range	NV12, etc.	H264, HEVC	HB, HX v2, HX v1	
		Default value	(Display only)	(Display only)	(Display only)	
	Alpha settings	Parameter	Use Alpha	Type	Alpha Signal	Key Source BKGD
		Setting range	Disable, Enable	—, Fill, Source	Detect, Not Detect	White, Black
		Default value	Disable	(Display only)	(Display only)	White
	Settings	Parameter	Machine Name	Source Name	Streaming Mode	Scan
		Setting range	(NDI search results list display) (Character string up to 60 characters)	(NDI search results list display. Depends on "Machine Name") (Character string up to 60 characters)	HB/HX v2, HX v1	Execute
		Default value	None	None	HB/HX v2	
	Protocol	Parameter	Protocol			
		Setting range	TCP, UDP			
		Default value	TCP			
	Group	Parameter	Group	Name		
		Setting range	Enable, Disable	(Character string up to 64 characters)		
		Default value	Disable	(blank)		
	Use Discovery Server	Parameter	Use Discovery Server	IP Address		
		Setting range	Enable, Disable	(IPv4 format)		
		Default value	Disable	(blank)		

- \*1
- The X part shows IN-A1 to 4 and IN-B1 to 4. This becomes IN-A1 and IN-B1 for 4K.
  - The \*\*\* part shows the source name. (Can be up to 32 characters. "..." is shown at the end if it does not fit.) The NDI Machine Name is shown if "Copy From NDI" is selected.

# Setting menu table

Menu	Sub menu		Parameter 1	Parameter 2	Parameter 3	Parameter 4
	Use [F1] to select.		Use [F2] to select.	Use [F3] to select.	Use [F4] to select.	Use [F5] to select.
Input (NDI) / X(***)* <sup>1</sup>	RTSP	Parameter	Port	Request URL		Connect
		Setting range		(Character string up to 255 characters)		Execute
		Default value	554	MediaInput/h264/stream_1		
	PTZ Control	Parameter	Connection			
		Setting range	Panasonic, NDI			
		Default value	Panasonic			
	Name	Parameter	Type	Name	Copy From NDI	
		Setting range	Default, User		Execute	
		Default value	Default			
	Camera Settings1	Parameter	IP Address	Port	Edit IP Address	Scan IP Address
		Setting range				
		Default value				
	Camera Settings2	Parameter	Edit User Name	Edit Password	Name	Network Status
		Setting range				
		Default value				
	Camera Settings3	Parameter	Pan Direction	Tilt Direction	Tally (Group1)	Tally (Group2)
		Setting range	Normal, Reverse	Normal, Reverse	Disable, Enable	Disable, Enable
		Default value	Normal	Normal	Enable	Enable
	Camera Settings4	Parameter	Zoom Direction	Focus Direction	Iris Direction	
		Setting range	Normal, Reverse	Normal, Reverse	Normal, Reverse	
		Default value	Normal	Normal	Normal	
Output	Output	Parameter	Select			
		Setting range	SDI OUT1, SDI OUT2, SDI OUT3, SDI OUT4, SDI OUT5, HDMI OUT1, HDMI OUT2, OUT-A1, OUT-A2, OUT-B1, OUT-B2			
		Default value	SDI OUT1			

- \*1
- The X part shows IN-A1 to 4 and IN-B1 to 4. This becomes IN-A1 and IN-B1 for 4K.
  - The \*\*\* part shows the source name. (Can be up to 32 characters. “...” is shown at the end if it does not fit.)  
The NDI Machine Name is shown if “Copy From NDI” is selected.

# Setting menu table

Menu	Sub menu		Parameter 1	Parameter 2	Parameter 3	Parameter 4
	Use [F1] to select.		Use [F2] to select.	Use [F3] to select.	Use [F4] to select.	Use [F5] to select.
Output (NDI) / Y* <sup>2</sup>	Assign	Parameter	Source			
		Setting range	PGM, PVW, CLN, ME PGM, AUX1, AUX2, AUX3, AUX4, MV1, MV2, Key Out			
		Default value	OUT1(PGM), OUT2(PVW), OUT3(AUX1), OUT4(AUX2), OUT5(AUX3), OUT-A1(AUX1), OUT-A2(AUX2), OUT-B1(AUX1), OUT-B2(AUX2)			
	Common Setup	Parameter	Machine Name	Source Name	Protocol	
		Setting range	(Character string up to 20 characters)	(Character string up to 32 characters)	TCP, UDP	
		Default value	AV-UHS500	NDI Device	TCP	
	Multicast Transmit	Parameter	Multicast Transmit			
		Setting range	On, Off			
		Default value	Off			
	Multicast Transmit	Parameter	IP Address	Subnet	TTL/HOP Limit	
		Setting range	(IPv4 format)	(IPv4 format)	1 to 254	
		Default value	239.192.0.30	255.0.0.0	16	
	Group	Parameter	Group	Name		
		Setting range	Enable, Disable	(Character string up to 64 characters)		
		Default value	Disable	(blank)		
	Use Discovery Server	Parameter	Use Discovery Server	IP Address		
		Setting range	Enable, Disable	(IPv4 format)		
		Default value	Disable	(blank)		

\*2 • The Y part shows SDI OUT1 to SDI OUT5, OUT-A1, OUT-A2, OUT-B1 and OUT-B2. This becomes OUT-A1 and OUT-B1 for 4K.  
(OUT-A1, OUT-A2, OUT-B1, and OUT-B2 are enabled when AV-UHS5M6 is connected.)

# Setting menu table

Menu	Sub menu		Parameter 1	Parameter 2	Parameter 3	Parameter 4
	Use [F1] to select.		Use [F2] to select.	Use [F3] to select.	Use [F4] to select.	Use [F5] to select.
Camera	Camera Information	Parameter	Input Selection	Name	Model	Status
		Setting range	IN1 to SDI IN8, IN-A1 to IN-A4, IN-B1 to IN-B4	(Name registered on the camera)	(Model name of the camera)	(Status of the Camera)
		Default value	IN1	—	—	—
	Control Speed	Parameter	Pan & Tilt	Zoom	Focus	Iris
		Setting range	1 to 32	1 to 32	1 to 32	1 to 32
		Default value	16	16	16	16
	Lock	Parameter	Pan & Tilt Lock	Zoom Lock	Focus Lock	Iris Lock
		Setting range	Off, On	Off, On	Off, On	Off, On
		Default value	Off	Off	Off	Off

Handwriting practice lines consisting of 30 horizontal dotted lines.

